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Translation

PATENT COOPERATION TREATY

PCT

PCT/JP2003/014457



INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference JSONY-487PCT	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/JP2003/014457	International filing date (day/month/year) 13 November 2003 (13.11.2003)	Priority date (day/month/year) 27 December 2002 (27.12.2002)
International Patent Classification (IPC) or national classification and IPC H02M 3/28		
Applicant SONY CORPORATION		

- This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 4 sheets, including this cover sheet.
- This report is also accompanied by ANNEXES, comprising:
  - ☒ (sent to the applicant and to the International Bureau) a total of 4 sheets, as follows:
    - ☒ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
    - ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
  - ☐ (sent to the International Bureau only) a total of \_\_\_\_\_, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

- This report contains indications relating to the following items:

- ☒ Box No. I Basis of the report
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

Date of submission of the demand 09 July 2004 (09.07.2004)	Date of completion of this report 22 March 2005 (22.03.2005)
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

# INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2003/014457

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- ☐ This report is based on translations from the original language into the following language \_\_\_\_\_, which is language of a translation furnished for the purpose of:
- ☐ international search (under Rules 12.3 and 23.1(b))
  - ☐ publication of the international application (under Rule 12.4)
  - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on (replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):

- ☐ The international application as originally filed/furnished
- ☒ the description:
- pages \_\_\_\_\_ 1-43 \_\_\_\_\_, as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the claims:
- pages \_\_\_\_\_, as originally filed/furnished
- pages\* \_\_\_\_\_ 1-3, 11-15 \_\_\_\_\_, as amended (together with any statement) under Article 19
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the drawings:
- pages \_\_\_\_\_ 1-19 \_\_\_\_\_, as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☒ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☒ the claims, Nos. \_\_\_\_\_ 4-10 \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (specify): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (specify): \_\_\_\_\_

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (specify): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (specify): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

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## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

### 1. Statement

Novelty (N)	Claims	1-3, 11-15	YES
	Claims		NO
Inventive step (IS)	Claims	1-3, 11-15	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-3, 11-15	YES
	Claims		NO

### 2. Citations and explanations

- Document 1: JP 2002-64981 A (Sony Corporation)  
 Document 2: JP 2001-218460 A (Sony Corporation)  
 Document 3: EP 1001520 A2 (Sony Corporation)  
 Document 4: JP 2000-152618 A (Sony Corporation)  
 Document 5: EP 1150418 A2 (Sony Corporation)  
 Document 6: JP 9-121540 A (Sony Corporation)

The invention set forth in claims 1 to 3 and 11 to 15 involves an inventive step in relation to the documents cited in the international search report. Documents 1 to 6 do not disclose a switching power supply circuit, provided with:

a first DC output voltage generating means, which is one of a plurality of DC output voltage generating means constituted in such a manner as to generate a plurality of DC output voltages by having the voltage obtained from the secondary winding of a converter transformer inputted and carrying out a rectification operation, and which is constituted in such a manner as to generate a first DC output voltage with a large supply power,

a second DC output voltage generating means which is another of the plurality of DC output voltage generating means, and which has a smaller supply power than the aforementioned first DC output voltage generating means,

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a control transformer which has a shunt regulator that generates output of a level according to the second DC output voltage level, and is wound with control winding through which control current is allowed to flow according to the output of the shunt regulator and the controlled winding which is inserted in between the secondary winding and secondary DC output voltage generating means, and

a second constant-voltage control means constituted in such a manner as to perform constant-voltage control with respect to the second DC output voltage by varying the inductance of the winding being controlled according to the control current which flows to the control windings,

and said feature would not be obvious to a person skilled in the art.